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# GP 12200 ▶ 12V 20Ah

GP 12200 is a general purpose battery up to 5 years in standby service or more than 260 cycles at 100% discharge in cycle service. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



## ► Specification

|                                            |                                                                                                                                                                     |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cells Per Unit                             | 6                                                                                                                                                                   |
| Voltage Per Unit                           | 12                                                                                                                                                                  |
| Capacity                                   | 20 Ah @ 20hr-rate to 1.75V per cell @25°C (77°F)                                                                                                                    |
| Weight                                     | Approx. 6.4 kg (14.11 lbs)                                                                                                                                          |
| Maximum Discharge Current                  | 230A(5sec)                                                                                                                                                          |
| Internal Resistance                        | Approx. 13 mΩ                                                                                                                                                       |
| Operating Temperature Range                | Discharge: -15°C~50°C ( 5°F~122°F)<br>Charge: -15°C~40°C ( 5°F~104°F)<br>Storage: -15°C~40°C ( 5°F~104°F)                                                           |
| Nominal Operating Temperature Range        | 25°C±3°C (77°F±5°F)                                                                                                                                                 |
| Float Charging Voltage                     | 13.5 to 13.8 VDC/unit Average at 25°C (77°F)                                                                                                                        |
| Recommended Maximum Charging Current Limit | 6 A                                                                                                                                                                 |
| Equalization and Cycle Service             | 14.4 to 15.0 VDC/unit Average at 25°C (77°F)                                                                                                                        |
| Self Discharge                             | CSB Batteries can be stored for more than 6 months at 25°C (77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter. |
| Terminal                                   | I1-Thread lead alloy recessed terminal to accept M5 bolt                                                                                                            |
| Container Material                         | ABS(UL 94-HB/File E50263)*Flammability resistance of (UL 94-V0/File E88637) can be available upon request.                                                          |



MH14533(N)



ISO9001  
No.:041005117



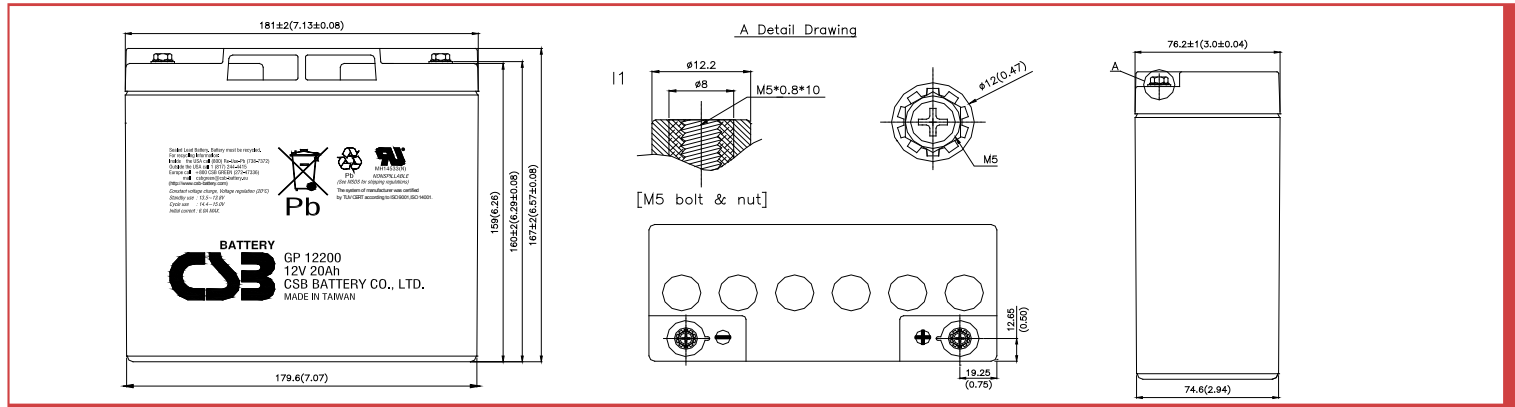
ISO 14001  
NO.UM 1-12-0045

CSB-manufactured VRLA batteries are UL-recognized components under UL924 and UL1989.

CSB is also certified by ISO 9001 and ISO 14001.

## ► Dimensions :

| Unit: mm (inch) | Overall Height (H) | Container height (h) | Length (L)        | Width (W)         |
|-----------------|--------------------|----------------------|-------------------|-------------------|
|                 | 167±2 (6.57±0.08)  | 160±2 (6.29±0.08)    | 181±2 (7.13±0.08) | 76.2±1 (3.0±0.04) |



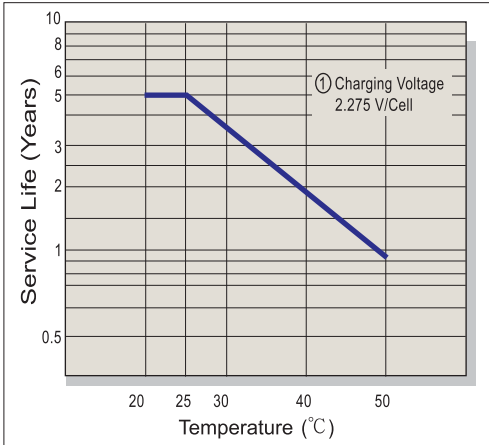
## Constant Current Discharge Characteristics Unit:A (25°C,77°F)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |
|----------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| 1.60V    | 87.5 | 55.5  | 42.3  | 25.5  | 15.1  | 11.0  | 8.75 | 6.23 | 3.97 | 2.62 | 2.10 | 1.09 |
| 1.67V    | 77.7 | 51.8  | 39.7  | 24.9  | 15.0  | 10.9  | 8.69 | 6.22 | 3.94 | 2.60 | 2.07 | 1.04 |
| 1.70V    | 73.5 | 50.2  | 38.7  | 24.7  | 14.9  | 10.9  | 8.67 | 6.20 | 3.93 | 2.60 | 2.05 | 1.03 |
| 1.75V    | 66.4 | 47.0  | 37.1  | 24.2  | 14.8  | 10.7  | 8.54 | 6.17 | 3.92 | 2.59 | 2.03 | 1.00 |
| 1.80V    | 59.3 | 43.8  | 35.2  | 23.8  | 14.5  | 10.6  | 8.42 | 6.12 | 3.91 | 2.58 | 2.00 | 0.96 |
| 1.85V    | 52.2 | 40.5  | 33.7  | 23.2  | 14.3  | 10.4  | 8.29 | 6.07 | 3.90 | 2.57 | 1.96 | 0.92 |

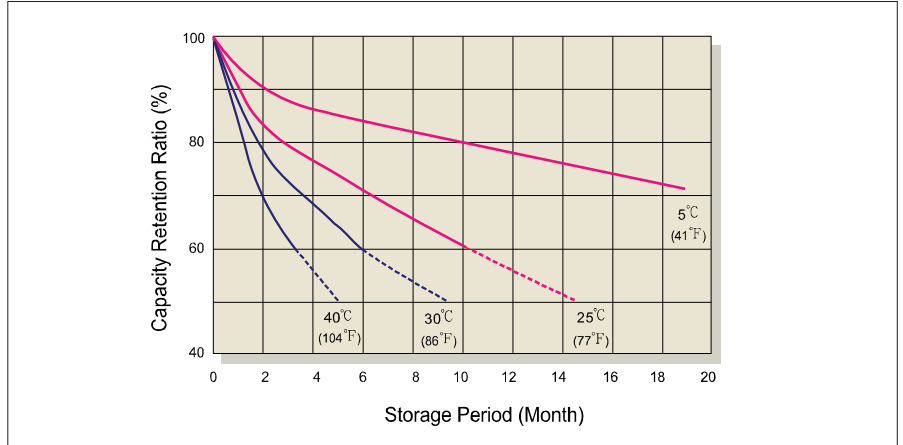
## Constant Power Discharge Characteristics Unit:W (25°C,77°F)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR | 3HR  | 5HR  | 8HR  | 10HR | 20HR |
|----------|------|-------|-------|-------|-------|-------|-----|------|------|------|------|------|
| 1.60V    | 1050 | 666   | 507   | 306   | 181   | 132   | 105 | 74.7 | 47.6 | 31.4 | 25.2 | 13.1 |
| 1.67V    | 932  | 621   | 481   | 301   | 179   | 130   | 104 | 74.6 | 47.3 | 31.3 | 24.9 | 12.5 |
| 1.70V    | 882  | 602   | 466   | 299   | 178   | 129   | 103 | 74.3 | 47.2 | 31.2 | 24.8 | 12.3 |
| 1.75V    | 797  | 564   | 446   | 292   | 176   | 128   | 102 | 74.0 | 47.1 | 31.1 | 24.4 | 11.9 |
| 1.80V    | 712  | 525   | 421   | 285   | 174   | 126   | 101 | 73.4 | 46.9 | 31.0 | 24.0 | 11.5 |
| 1.85V    | 627  | 487   | 404   | 278   | 171   | 125   | 100 | 72.8 | 46.8 | 30.9 | 23.6 | 11.1 |

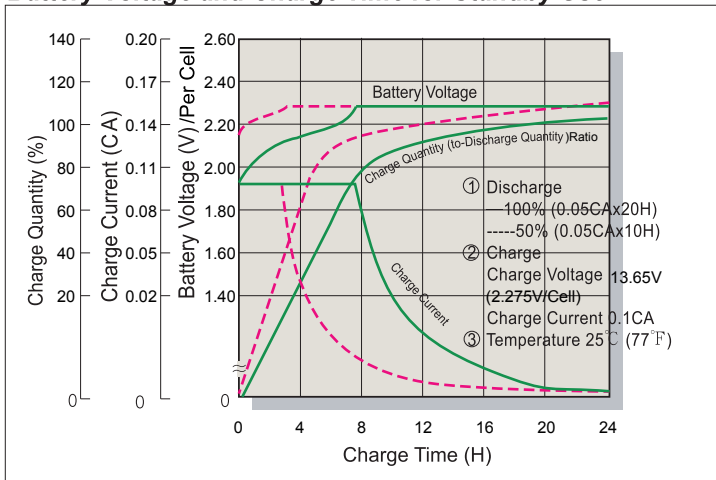
### Trickle (or Float) Service Life



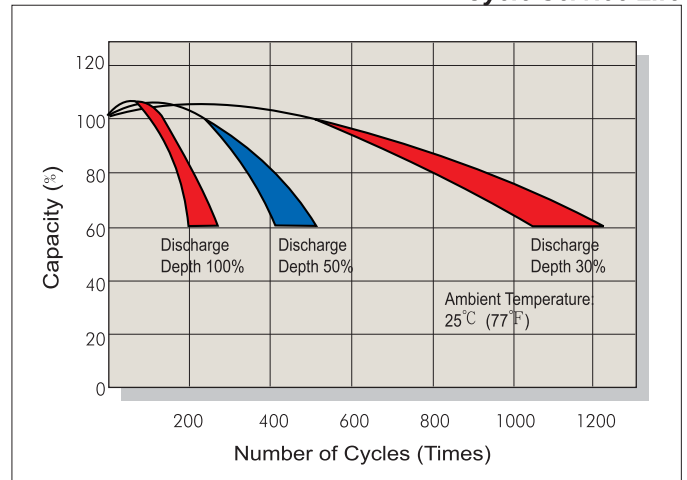
### Capacity Retention Characteristic



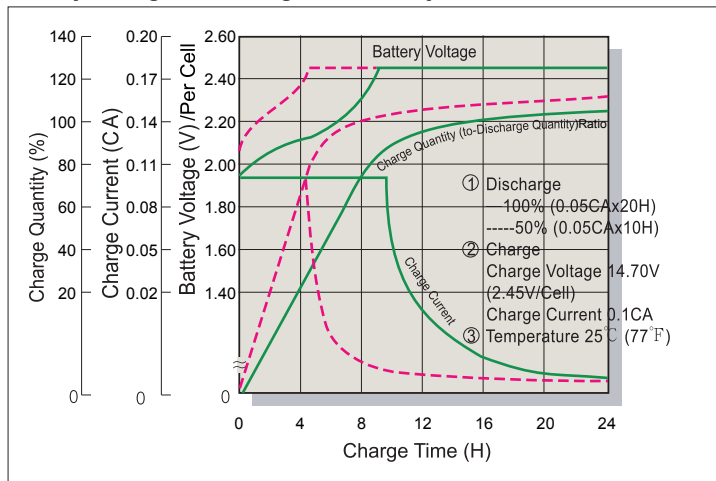
### Battery Voltage and Charge Time for Standby Use



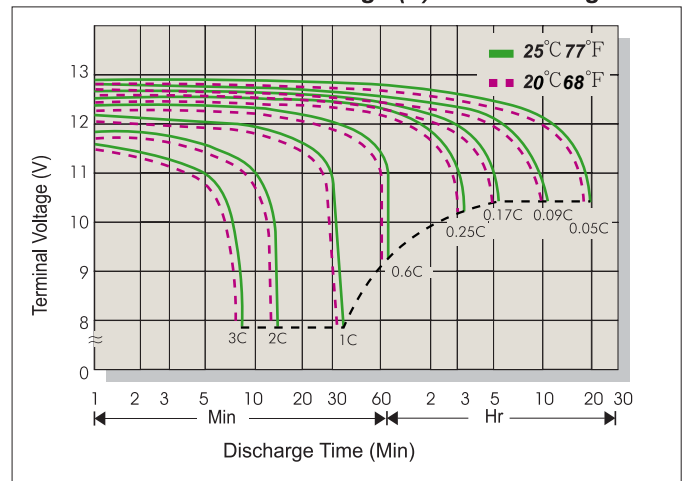
### Cycle Service Life



### Battery Voltage and Charge Time for Cycle Use



### Terminal Voltage (V) and Discharge Time



### Charging Procedures

| Application | Charge Voltage(V/Cell) |           |                 | Max.Charge Current |
|-------------|------------------------|-----------|-----------------|--------------------|
|             | Temperature            | Set Point | Allowable Range |                    |
| Cycle Use   | 25°C (77°F)            | 2.45      | 2.40~2.50       | 0.3C               |
| Standby     | 25°C (77°F)            | 2.275     | 2.25~2.30       |                    |

### Discharge Current VS. Discharge Voltage

| Final Discharge Voltage V/Cell | 1.75     | 1.70          | 1.60          | 1.30     |
|--------------------------------|----------|---------------|---------------|----------|
| Discharge Current(A)           | 0.2C>(A) | 0.2C<(A)<0.5C | 0.5C<(A)<1.0C | (A)>1.0C |

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